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BIENNIAL REPORT
OF THE
STATE AGRICULTURAL LIME
BOARD



FOR THE FISCAL YEARS ENDING
SEPTEMBER 30, 1918-1919.

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Maryland. State Board of Agriculture.

Annual report.

BIENNIAL REPORT

OF THE

STATE AGRICULTURAL LIME
BOARD



FOR THE FISCAL YEARS ENDING
SEPTEMBER 30, 1918-1919.

Maryland

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TO THE HON. E. BROOKE LEE,

Comptroller of the Treasury.

SIR—As prescribed by the laws of Maryland, Chapter 221, 1916, creating the State Agricultural Lime Board and providing for establishing in Southern Maryland a plant for the conversion and reduction of oyster shells into agricultural lime, a report on the operation of the plants is herewith transmitted.

The report includes a summary of the work accomplished, a statement of finances and recommendations concerning the future of this project.

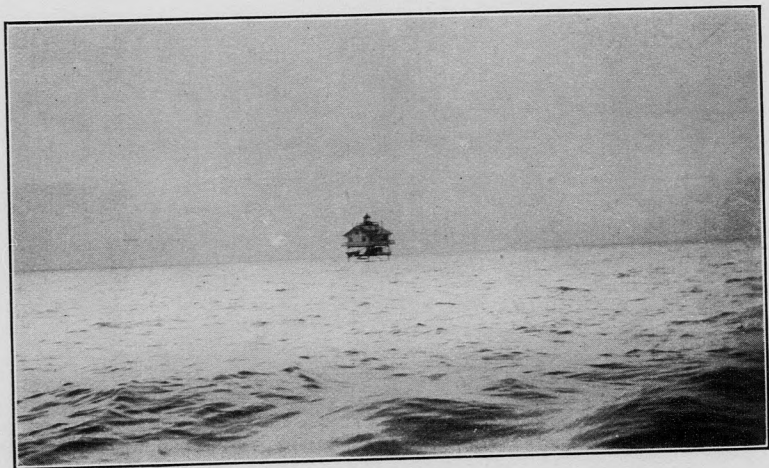
Respectfully submitted,

T. B. SYMONS,

W. W. SKINNER,

State Agricultural Lime Board.

January, 1920.



OYSTER GROUNDS OF THE LOWER POTOMAC.

BIENNIAL REPORT
OF THE
AGRICULTURAL LIME BOARD
SEPT. 30, 1917 - SEPT. 30, 1919.

The lime Board was created by an Act of the Maryland Legislature at its 1916 session for the purpose of encouraging the use of more lime in the southern section of the State by the utilization of oyster shells.

The Board was organized in September, 1916, and arrangements were made for the purchase of equipment, location of the lime plants and other necessary details were perfected for the grinding of oyster shells for lime. Operations were begun March 1, 1917. A full report covering the first year's work was submitted to the Comptroller in January, 1918.

NEED FOR LIME IN SOUTHERN MARYLAND.

This project was undertaken by the State to meet the great need of Southern Maryland for lime. This section of the State lies distant from the State limestone regions and it was difficult for farmers in this tide-water section to secure lime at reasonable prices, primarily on account of lack of transportation facilities. In addition, the law was designed to demonstrate the use of raw ground oyster shell lime and the utilization of natural deposits of oyster shells available in Southern Maryland and the shells from the oyster packing plants in that region.

Prior to this time, experiments conducted by the various Experiment Stations had shown that splendid results could be expected from the use of oyster-shell lime, although little was offered by commercial companies. There existed also at

this time a prejudice among many farmers against the use of raw limestone, so that the State inaugurated this work primarily as an educational project as well as for the practical reasons of making available lime at reasonable cost to



THE ROCK POINT OUTFIT.

a large section of the State where the soil had been greatly depleted by over-cropping and was sour and in need of great quantities of lime to bring it back to a proper state of cultivation.

RESULTS ACCOMPLISHED.

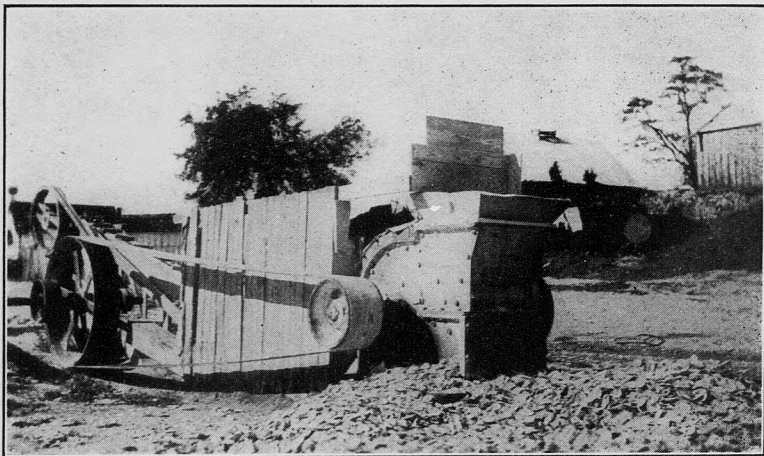
As stated, operations began in 1917 and continued through 1919. According to the report of the superintendent, Mr. Joseph H. Blanford, a total of 6,810 tons of lime and 690 tons of screenings have been produced to date, and practically all sold. In addition, there are yet to be disposed of 1,310 tons of screenings which analyze about 50 per cent. calcium carbonate and can only be classed as a low-grade fine shell. The regular first-grade lime gave an average analysis of 95 per cent. calcium carbonate.

One thousand and seventy-five (1,075) farmers have purchased lime from the State plants. About 75 per cent. of these had never previously used lime in any form. About 95 per cent. had never used raw lime. A special effort has been

made to furnish lime to those who have been distant from railroad transportation.

During 1917 plants were operated at Pope's Creek, where there was a large deposit of oyster shells, and at Cornfield Harbor at the mouth of the Potomac River, to utilize shells from an oyster packing house.

In June, 1918, the Pope's Creek plant was moved to Rock Point, at the mouth of the Wicomico River, in Charles County and convenient by vessel to St. Mary's. Two oyster shucking houses are located at this point. Two additional pulverizers



THE BENEDICT OUTFIT.

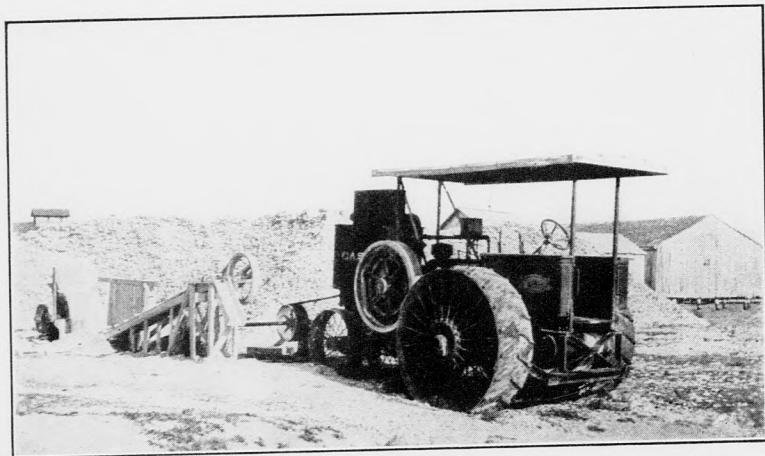
were purchased; one was operated at Benedict and the other moved from place to place and operated by the owners of small quantities of shells under supervision of the Lime Board.

EDUCATIONAL WORK.

Every effort has been made by the superintendent and members of the Board to promote educational work, emphasizing the use of lime as a soil builder.

At 56 meetings of farmers, addresses have been made, explaining the use of lime and the merits of raw lime compared with burnt lime. Special care was taken not to discourage the

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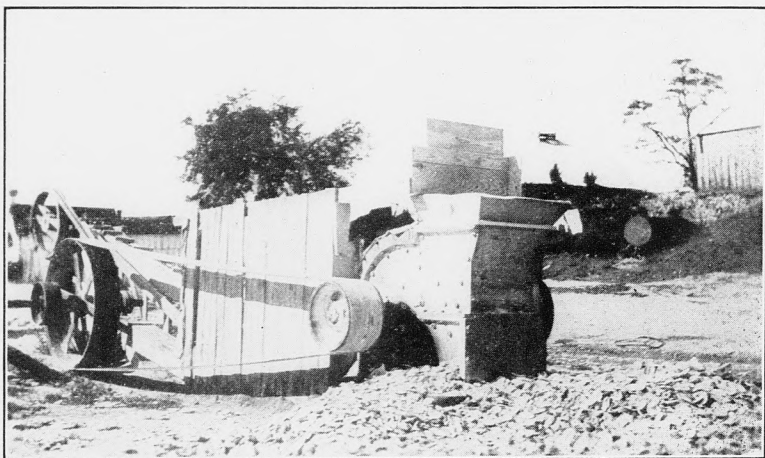
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At 56 meetings of farmers, addresses have been made, explaining the use of lime and the merits of raw lime compared with burnt lime. Special care was taken not to discourage the

use of burnt lime, but to advocate that which could be secured and applied most conveniently and economically.

Several hundred letters have been written giving advice concerning the use of lime, and a large amount of literature has been distributed.

The Board has co-operated with other State agencies, especially the Extension Service of the State College, in urging the testing of soil to ascertain its need for lime. As a result of furnishing lime at reasonable price and convenient points, and the educational work conducted by all agencies in Southern Maryland, a much better condition exists today in this section. Farmers are using much more lime and are convinced of its benefits when applied to sour soils. The utilization of the oyster shells which were previously allowed to remain in piles as a waste product of the industry has been demonstrated to be profitable. Several owners of shells have made and are making lime under the supervision of the Lime Board, and others are ready to do so as soon as they can be accommodated with the necessary machinery.

The situation, therefore, as regards lime in this section has greatly improved and the question as to the State's continuation of the work must be given careful consideration.

DIFFICULTIES EXPERIENCED IN 1918-1919.

It will be observed that the conduct of this work has been mainly through the war period. While war was declared in April, 1917, the serious effect upon industries, other than those connected with the war, was not felt until the fall of 1917 and during the years 1918 and 1919. During the spring and summer of 1917 splendid results were secured in the operation of the plants. Labor was available at reasonable wages. In the fall of that year and during 1918 it became increasingly more difficult to secure daily laborers for the operation of the plants. Moreover, wages increased by more than 100 per cent. The operation of the Government Proving Ground at Indian Head during this period served to attract all available labor at high wages.

The result in the operation of the lime plants was decreased production with greatly increased costs; that is, it was not possible to keep the plants in continuous operation due to labor conditions, and the total output was consequently reduced. Notwithstanding these conditions and the realization by the Board of increased costs, every effort was made to supply the needs of the farmers for lime during this period and to aid in increased production of farm products. The price of lime was advanced from \$2.25 per ton in 1917 to \$5.00 per ton in 1918-1919. Even at the advanced price, it was found that operation costs, with the lower total production, more than offset the increased revenue.

The labor situation developed to a point early in 1919 that it was impossible to operate the plants without robbing the very limited supply of labor employed on the farms in the vicinity of the plants. This condition, together with the increased costs and the facts as previously set forth in regard to the results already demonstrated, prompted the Lime Board to address the following letter to Governor Harrington, on August 13, 1919:

COLLEGE PARK, Md., August 13, 1919.

GOVERNOR E. C. HARRINGTON,
Annapolis, Maryland.

DEAR SIR—The State Lime Board submits the following statement of conditions surrounding the further operation of the lime plant by the Board for your consideration and suggestion:

First—During the first year's operation of the plant, as reported in our annual report submitted to the Comptroller as required by law, satisfactory progress was made in the establishment of the plant and the grinding and sale of 2,159 tons of lime to the farmers of Southern Maryland. At the close of the last fiscal year, September 30, 1918, about 3,000 tons of lime had been ground and sold. At the time of submitting our report, the total assets, including inventory and balance, was shown as \$13,674.50; the original appropriation was \$12,000.

Second—The period from 1918 and to date 1919 has been a very difficult one for operation. Labor conditions in Charles County have been very acute on account of war demands at Indian Head Plant. Costs of labor greatly increased and there seems no probable reduction of such costs in the near future. The price of lime was advanced last year to a point above which the farmers could not afford to purchase, in

comparison with the purchase of other lime. Notwithstanding the increase in price, receipts have not met the cost of operation; in fact, the profit which had accumulated has been used in operation during this unusual period.

Third—At the present time, a fair valuation of plant and equipment, plus balance that would accrue from sale of lime and screenings on hand after deducting liabilities, seems to show a total estimated value of \$11,004.21. While our overhead expenses are extremely low, employing only the superintendent, Mr. Blandford, at \$1,500 per year with labor for operation, yet with the limited volume of business necessary to meet the demands for lime in Southern Maryland and available supply of raw material, it is not possible to operate the plant at present costs and prices of lime to make a margin of profit or to break even.

Fourth—It is the opinion of the Lime Board that the object for which this legislation was enacted has been attained, at least in part. That is, it has been demonstrated that oyster shells in Southern Maryland can be used to great advantage in improving the farming lands. The distribution of from 5,000 to 6,000 tons of oyster shell lime in Southern Maryland has demonstrated to the farmers the benefits to be derived from the application of lime to their acid soils. By the assistance of the State in inaugurating this movement, two private parties have arranged to grind shells and sell lime locally. It is believed that others would engage in the business if the State plant is discontinued. Moreover, a demand for lime has been created in Southern Maryland, which should support local concerns. It is probable that the local business will remain small in volume, as shells can be ground up as they become available. In grinding comparatively small amounts at different points, private parties can operate more cheaply than a plant operated by the State under present conditions.

There is no doubt that the farmers of Southern Maryland have obtained oyster-shell lime upon the most economical basis from the State lime plant.

Recent bids from the Beaver Dam Marble Company of Baltimore County submit a price of \$3.10 per ton for ground limestone delivered in carload lots to Brandywine of this county (Prince George's). Another company submits a bid of \$4.56 for pulverized limestone in carload lots to the same point. These bids indicate that the farmers of that section can secure lime as cheaply as the State plant can produce it.

Fifth—It is the opinion of the Lime Board now that this demonstration has been made and in view of present conditions that in justice to the public and the State, it would be in the interests of the State to dispose of all property and close up the accounts as early and conveniently as conditions would permit. It would, of course, take some time to dispose of the lime and screenings on hand and also the

grinding equipment. The Board would like to have your opinion and advice in view of this statement in deciding the future policy to be pursued.

A good article on the operation of State plants and the appropriations made by the States of Virginia and North Carolina, by Y. H. Findley, appeared in the *Country Gentleman*, July 26.

Respectfully,

T. B. SYMONS, *President*,

W. W. SKINNER, *Secretary-Treasurer*.

The Governor approved of the recommendation of the Board and referred the matter to the Attorney General. The Attorney-General ruled that the lime plant and operating machinery could not be disposed of without direct authorization from the Legislature.

RECOMMENDATIONS.

In view of these conditions, the Lime Board respectfully recommends that an Act be passed by the State Legislature now in session, authorizing the Board to dispose of all State property under its jurisdiction and the receipts from the same to be returned to the State treasury.

CONCLUSION.

While the inauguration of this work by the State was undertaken during the war period and accordingly during a period of unusual difficulty and labor shortage, yet the result has justified the State in making this demonstration in the utilization of oyster shells for lime.

Lime has been supplied to farmers of Southern Maryland from the waste oyster shells and has been the means of restoring many acres of land to an increased state of productivity. The greatest benefit resulting from this project by the State has been popularizing the use of lime by the farmers in Southern Maryland, as is shown by the increased demand for all kinds of lime. The greater use of lime will mean much in assisting in the general increase of fertility of the soil in this section. Moreover, this demonstration has served to in-

terest private enterprises in the grinding of oyster shells for lime. Obviously an individual or group of individuals in a section, distant from railroad facilities, can co-operate in grinding oyster shells at times during the year when other work is not pressing—at a cost below that which the State can do it. Now that a demand has been created, it is easy for those conducting oyster shucking houses to secure equipment for grinding the waste shells into lime at times when the oyster business is not pressing. Four private parties are already engaged in this work, and it is believed that others will secure equipment for grinding the waste shells with the State's withdrawal from the field.

The Lime Board desires to express its great appreciation of the unselfish service rendered by Mr. Joseph H. Blandford, who has served as superintendent of the lime work. He has worked under extreme difficulties and notwithstanding war conditions, has made a success of the project.

The present members of the Lime Board took up the work after it had been launched by our predecessors, and in view of present conditions believe that it is for the best interests of the State that the present equipment be disposed of and that the Board be disbanded. It is realized in this connection that the educational work for increasing the use of lime will be carried on by the State College.

A report of the receipts and expenditures, with inventory, is submitted herewith for the biennium ending September 30, 1919. There is also included the statement submitted in the last report.

T. B. SYMONS,

W. W. SKINNER,

State Agricultural Lime Board.

FINANCIAL STATEMENT

For Fiscal Year Ending September 30th, 1918.

RECEIPTS.

October 1, 1917—Cash on hand.....	\$3,224.55	
3,008 tons of lime sold.....	10,021.90	
Sale of bags, freight prepaid, etc.....	3,113.58	
		\$16,360.03

DISBURSEMENTS.

Labor	\$8,261.00	
Material for operating.....	1,568.66	
Freight on lime shipped.....	828.73	
Machinery	1,323.99	
Bags	2,638.07	
Miscellaneous	334.12	
		14,954.57
Cash on hand.....		1,405.46
		\$16,360.03

FINANCIAL STATEMENT

For Fiscal Year Ending September 30th, 1919.

RECEIPTS.

October 1, 1918—Cash on hand.....	\$1,405.46	
1,740½ tons of lime sold.....	6,191.75	
Sale of bags, freight prepaid, etc.....	1,807.74	
		\$9,404.95

DISBURSEMENTS.

Labor	\$3,447.12	
Material for operating.....	3,021.70	
Freight on lime shipped.....	528.10	
Machinery	432.61	
Bags	995.72	
Miscellaneous	240.13	
		8,665.38
Cash on hand.....		739.57
		\$9,404.95

INVENTORY SEPTEMBER 30th, 1919.

AT POPE'S CREEK.

Factory building	\$1,300.00	
Tools and equipment.....	400.00	
		<u>\$1,700.00</u>

AT ROCK POINT.

Coal-oil tank	\$100.00	
30-60 C. oil-gas tractor.....	1,500.00	
Jeffrey pulverizer, 18x24, and conveyor.....	800.00	
Tools, etc.....	125.00	
		<u>2,525.00</u>

AT BENEDICT.

K. B. pulverizer.....	\$600.00	
Jeffrey pulverizer	500.00	
20 H. P. International engine.....	900.00	
Tools, etc.....	100.00	
		<u>2,100.00</u>

AT CORNFIELD HARBOR.

Factory building	\$300.00	
Tools, etc.....	125.00	
		<u>425.00</u>

AT LEONARDTOWN.

Jeffrey portable pulverizer.....	600.00	
		<u>\$7,350.00</u>

Supplies on hand—

955 tons of marl.....	\$955.00	
120 tons of lime.....	600.00	
3,500 sacks	350.00	
14,700 bu. of shells.....	735.00	
Fuel	100.00	
Due for lime sold.....	209.25	
Cash in Bank of Brandywine.....	696.55	
Cash in Union Trust Company.....	43.02	
		<u>3,688.82</u>
		<u>3,688.82</u>
		<u>\$11,038.82</u>

Liabilities—

Salary of superintendent for 11 months at \$125 per month.....	\$1,375.00	
Expenses, same period.....	396.00	
Due for shells.....	1,040.35	
Due for bags.....	160.00	
Due for coal-oil.....	55.83	
		<u>3,027.98</u>
		<u>3,027.98</u>
Present estimated value.....		<u>\$8,010.84</u>

FINANCIAL STATEMENT

For Fiscal Year Beginning October 1st, 1916 and Ending
September 30th, 1917.

RECEIPTS.

Appropriation under Chapter 221, Acts of 1916	\$12,000.00	
Interest	140.19	
		<u>\$12,140.19</u>
2,631½ tons lime sold to September 30..	\$6,340.50	
Sale of bags, etc.....	2,002.79	
		<u>8,343.29</u>
		<u>\$20,483.48</u>

DISBURSEMENTS.

Labor and material for construction of plant	\$8,119.32	
Supervision in connection with construc- tion of plant	1,000.00	
		<u>\$9,119.32</u>
Labor and material for operation of plant	\$6,982.75	
Supervision in connection with opera- tion of plant	808.34	
		<u>7,791.09</u>
Miscellaneous		<u>348.52</u>
		<u>\$17,258.93</u>
Cash on hand.....	3,224.55	
		<u>\$20,483.48</u>

INVENTORY SEPTEMBER 30th, 1917.

PROPERTY LOCATED AT POPE'S CREEK.

Building, wharf and loader.....	\$1,500.00	
Crusher, elevator and screen.....	1,500.00	
30-60 H. P. Case tractor.....	2,500.00	
Coal-oil tank	100.00	
Two horses, two carts and harness.....	500.00	
Tools and equipment.....	250.00	
2,000 bags	170.00	
	<u> </u>	\$6,520.00

AT CORNFIELD HARBOR.

Building	\$600.00	
Crusher and conveyor.....	1,000.00	
20 H. P. International coal-oil engine..	800.00	
Tools and equipment.....	200.00	
	<u> </u>	2,600.00
		<u> </u> \$9,120.00

POPE'S CREEK.

100 tons of lime.....	\$275.00	
800 tons of screenings.....	1,000.00	
	<u> </u>	\$1,275.00

CORNFIELD HARBOR.

20 tons of lime.....	55.00	
	<u> </u>	\$1,330.00
Balance on hand from appropriation (of \$12,000 and interest, \$140.19).....	\$2,131.29	
Cash on hand and in bank, account of Pope's Creek plant.....	\$438.96	
Cash on hand and in bank, Cornfield Harbor	654.30	
	<u> </u>	1,093.26
		<u> </u> 3,224.55

Total estimated value of plant and supplies, Oct. 1, 1917..\$13,674.55



